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Los Alamos NATIONAL LABORATORY

Nuclear Emergency Support Team Public Health and Safety

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Public Health and Safety

- **Radiological Assistance Program (RAP)**

- **Consequence Management (CM)**

Aerial Monitoring System

REACTS

Radiological Assistance Program (RAP)

Radiological Assistance Program (RAP) Overview

- Been around more than 60 years (1958)

- RAP is the nation's premier first-response resource for advising Federal, state, local and tribal decision-makers on steps to take to evaluate and minimize the hazards of a radiological or nuclear incident.

- RAP support ranges from giving technical information or advice over the telephone to sending highly trained personnel with state-of-the-art equipment to the incident site where team members help identify, characterize and minimize any radiological or nuclear hazards.

- RAP teams support large national events such as Superbowls and Inaugurations down to local incidents such as abandoned radioactive sources and accidents.

- Real world events supported: Three Mile Island, September 11th (World Trade Center and NCR), Fukushima, Tc-99 incident and Seattle source breach, DP West, North Community.

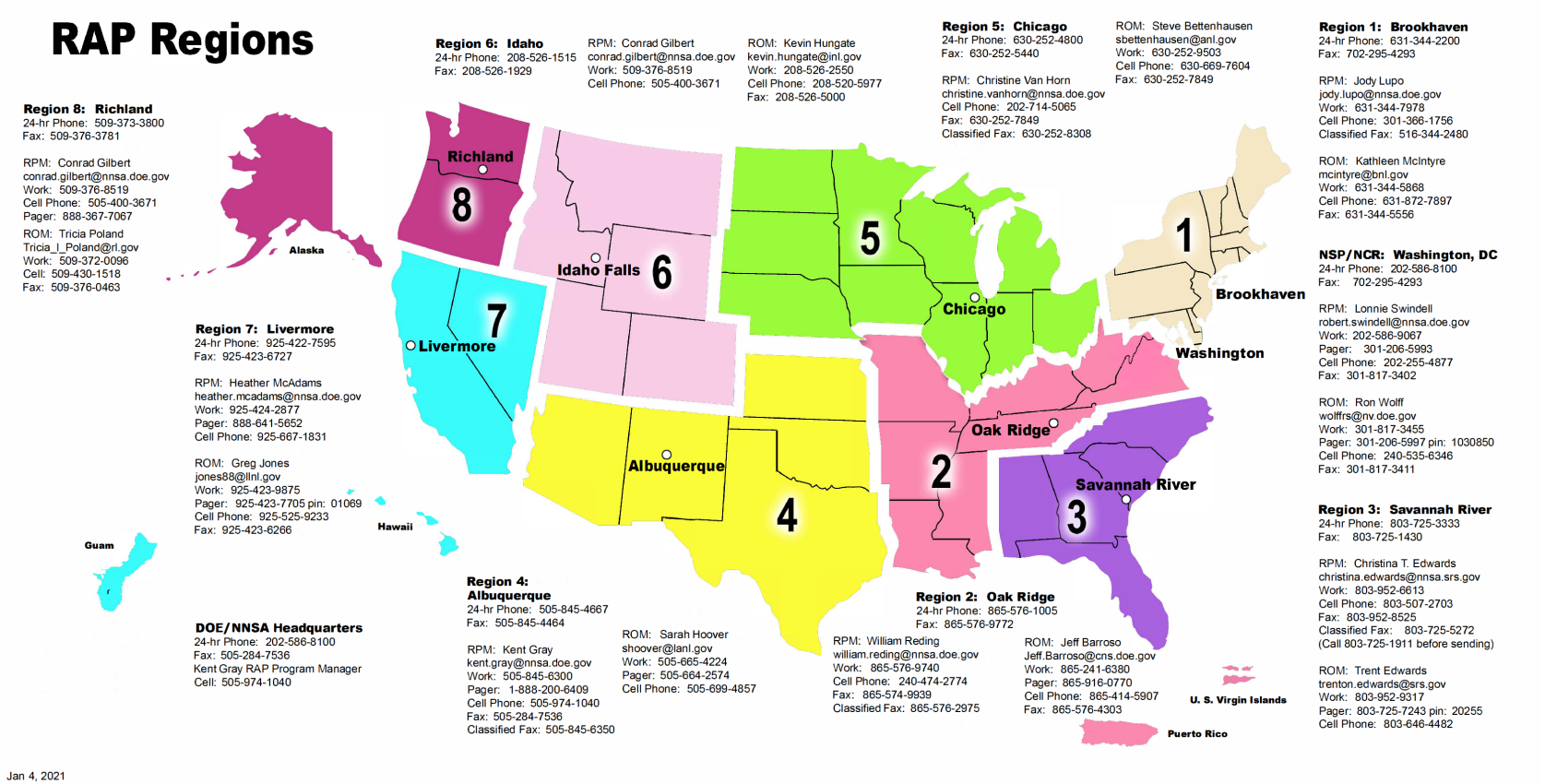
RAP Overview

- Wide array of equipment
  - Mobile detection systems
  - Gamma spectroscopy
    - High resolution (Ortec Detectives)
    - Low resolution (identiFinder 2s R400s)
    - Low resolution gamma and neutron mobile system
  - Radiation detection equipment
    - Gamma
    - Neutron
  - Contamination detection equipment
  - Air sampling equipment
    - High volume
    - Low volume

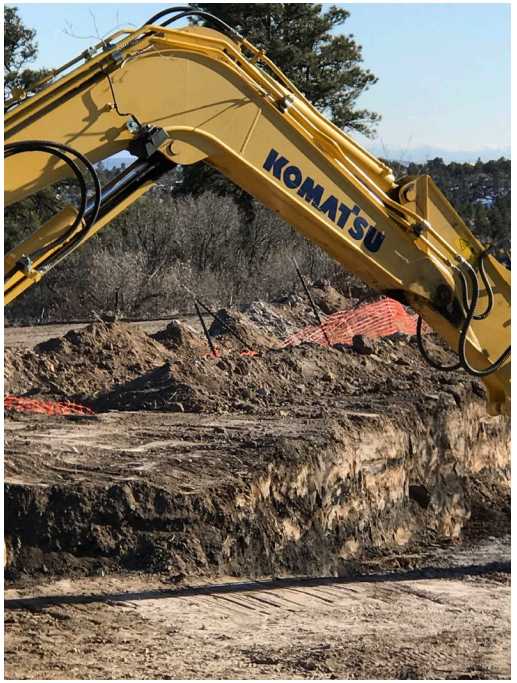
- Equipment can feed data into RadResponder for trending and analysis and for use by consequence management

RAP Overview

- There are eight soon to be seven regions
- LANL is Region 4 (Arizona, New Mexico, Texas, Oklahoma & Kansas)



RAP The So What



- RAP may be the first technical resource on scene
  - Find, localize and identify radiological/nuclear material
  - Find, localize and control contamination
  - Work with Consequence Management
  - Conduit to other response teams (STAB, JTOT, ARG)

- Laboratory Boundaries
  - LANL Radiological Control Technicians do not respond outside of LANL
  - SIGMA Am-241 release 2005
  - LANSCE 2012
  - DP West road event in 2018
  - North Community response 2021

RAP Current Projects

- Oklahoma City Marathon
  - Real World
- Maricopa County, AZ Training
  - Training for power plant release response
- RAPTER FY22
  - Training for all current and new team members (lead role curriculum development)
- Cobalt Magnet 22, Austin Texas
  - Training exercise
- Superbowl LVI, Los Angeles, CA
  - Real World
- Superbowl LVII, Phoenix, AZ
  - Real World

Going Forward

- RAPTER Rewrite
- Equipment modernization/updating
  - Not all equipment as reliable as needed
- Training for the new equipment
- Prepping to assist Region 7 for SB LVI
- Prepping to host SB LVII

Issues

- RAPTER Backup
  - No RAPTERs for two years
  - Every member (new or not) attends every three years
    - Need to catchup folks that need to go
    - Need to send many new members

- Team Captain
  - Five of the six TCs are nearing retirement
  - Working to train new TCs
    - Will be pulling from other positions so will need to back fill those
    - Not a quick due the RAPTER backup

- New space for equipment
  - May lose current small space that we have
  - Would like space in town that has multipurpose space

Consequence Management (CM)

Consequence Management (CM) Overview

- Aerial Monitoring System (AMS)
  - Fixed and rotary wing aircraft with large detector systems
  - Based out of RSL Nevada and RSL Andrews

- Federal Radiological Monitoring and Assessment Center (FRMAC)
  - Coordinates federal offsite radiological monitoring and assessment activities
  - Provides for a single source of compiled, quality controlled data set for the incident

- National Atmospheric Release Advisory Center (NARAC)
  - Provides real time computer predictions of the atmospheric transport of material from a radioactive release
  - Based out of LLNL

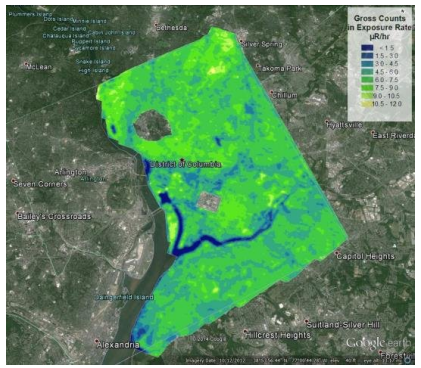
CM Overview

- Radiation Emergency Assistance Center/Training (REACTS/TS)
  - Provides medical advice, specialized training and onsite assistance for the treatment of radiation exposure accidents
  - Cytogenetic biodosimetry - Sensitive dose reconstruction capability

- Consequence Management Home Team
  - Can forward deploy with the assets as needed
  - Coordinate the response as needed
  - Use Assessment Scientists to help provide data for decision making and interpretation
    - Shelter in place vs. evacuate
    - Embargo crops and livestock (USDA, EPA, CDC ….)

CM Overview

- Equipment
  - Turbo FRMAC computer code
    - Developed and maintained at SNL
  - Planes and Helicopters
    - With large detector arrays
  - Predictive Modeling Codes
    - Plume modeling
  - Emergency Response Kits
    - Ability to do sampling
      - Radiation and contamination surveys
      - Air, water, soil, food



CM The So What

- **Ability to provide:**
  - Vital information to stakeholders and decision makers
  - Large Area Characterization
  - Home Team coordination
  - Assessment Scientists
  - Boots on ground
  - Laboratory analysis
  - Medical assistance/advice

CM Current Projects

- La Salle NPP IPX
- Cobalt Magnet 22
- Brunswick NPP IPX
- Wide Area Background Survey Toolkit Development
- Radiation Safety/Protection SME support to USAID Bureau for Humanitarian Assistance (International work)

Going Forward

- Retooling of Turbo FRMAC and other tools
  - Useful
  - Timely
  - More configurable

Issues

- Lost two of three of LANL Assessment Scientists
  - Working to replace them
  - COVID has limited training classes and qualification drills/exercises

- COVID has limited drills/exercises/training
  - Eroding proficiency of assets